

CLAIMS

What is claimed is:

1. A chimeric Edg receptor comprising:
 - a) an extracellular domain of a first Edg receptor;
 - b) a transmembrane domain of the first Edg receptor, wherein the transmembrane domain is operably linked to the extracellular domain; and
 - c) a chimeric intracellular domain comprising an intracellular strand of a second Edg receptor, wherein the chimeric intracellular domain is operably linked to the transmembrane domain.
2. The chimeric Edg receptor of Claim 1 wherein the chimeric intracellular domain further comprises two strands of the first Edg receptor.
3. The chimeric Edg receptor of Claim 1 wherein the chimeric intracellular domain further comprises three strands of the first Edg receptor.
4. The chimeric Edg receptor of Claim 1 wherein the chimeric intracellular domain comprises two strands of the second Edg receptor.
5. The chimeric Edg receptor of Claim 1 wherein the chimeric intracellular domain comprises three strands of the second Edg receptor.
6. The chimeric Edg receptor of Claim 1 wherein the chimeric intracellular domain comprises four strands of the second Edg receptor.
7. The chimeric Edg receptor of Claim 1 wherein the chimeric intracellular domain comprises first intracellular loop or second intracellular loop of the second Edg receptor.

8. The chimeric Edg receptor of Claim 1 wherein the chimeric intracellular domain comprises first intracellular loop and second intracellular loop of the second Edg receptor.

5 9. The chimeric Edg receptor of Claim 1, wherein the chimeric G protein coupled receptor couples with Gαq.

10. The chimeric Edg receptor of Claim 1 wherein the second Edg receptor couples with Gαq.

10 11. The chimeric Edg receptor of Claim 1 wherein the first Edg receptor is selected from the group consisting of Edg 1, Edg 3, Edg 5, Edg 6 and Edg 8.

5 12. The chimeric Edg receptor of Claim 1 wherein the second Edg receptor is selected from the group consisting of Edg 2, Edg 4 and Edg 7.

13. A chimeric Edg receptor selected from the group consisting of Edg1/3(ct), Edg 1/3(i3ct), Edg 1/3(i2i3ct), Edg5/3(i3ct) and Edg8/4(ct).

10 14. A nucleic acid encoding the chimeric Edg receptor of Claim 1 or 13.

15. A cell comprising the chimeric Edg receptor of Claim 1 or 13.

16. A cell comprising the nucleic acid of Claim 14.

25 17. A method of screening for compounds that bind an Edg receptor comprising:

30 a) contacting the chimeric Edg receptor of Claim 1, 11, 12 or 13 with a compound; and

b) detecting binding of the compound to the chimeric Edg receptor thereby identifying a compound that binds the first Edg receptor.

5 18. A method of screening for compounds that modulate the activity of an Edg receptor comprising:

a) contacting the chimeric Edg receptor of Claim 1, 11, 12 or 13 with a compound; and

10 b) detecting modulation of the activity of the chimeric Edg receptor relative to the activity of the chimeric Edg receptor in the absence of the compound thereby identifying a compound that modulates the activity of the chimeric Edg receptor.

15 19. The method of Claim 18 wherein the activity of the chimeric Edg receptor is increased.

20. The method of Claim 18 wherein the activity of the chimeric Edg receptor is decreased.

25 21. The method of Claim 18 wherein the activity of the chimeric G protein coupled receptor is detected by a calcium mobilization assay.